ABSTRACT OF THE DISCLOSURE

Aspects of the invention relate to a fixture and a method to assist in the alignment of the inlet end of a transition duct and a combustor component in a turbine engine. Among other things, the fixture can include a flange adapted for mounting to a combustor component, an elongated mandrel, and a plurality of radially extendable jaws. After mounting the fixture to a combustor component, the jaws can engage an inner peripheral surface of a transition so as to properly align the transition with a target axis of alignment. The fixture can be configured to measure the size of any shims needed at the base of the flexible support bracket. Further, the fixture can also include various gauges to validate the alignment of the inlet end of the transition.